

Appl. No. 09/839,295
Amdt. Dated 5/10/2006
Reply to Office Action of 2/10/2006 /

IN THE CLAIMS:

1. (currently amended) A computerized method for self-directed assistance of equipment service personnel in identifying replacement parts for selected locomotive equipment and a selected system thereof while present at an equipment work site to perform a servicing operation for a locomotive, said method comprising:

providing a database comprising detailed parts data about the replacement parts for each assembly of the selected locomotive equipment, with the detailed data identifying each part in a selected assembly by providing a series of linked schematic representations of the selected assembly and any subassemblies thereof and respective parts, wherein said series of linked schematic representations comprises a plurality of graphical hyperlinks embedded on respective visual representations of the selected locomotive equipment, and further wherein the database comprises detailed data for troubleshooting and determining a servicing required for a selected assembly of the selected locomotive equipment;

providing a respective locomotive identifier for uniquely identifying the selected equipment onboard said locomotive;

providing a hand-held input/output device for wirelessly communicating with the database as said personnel performs the servicing operation for said locomotive;

accessing the database to interface with the detailed parts data;

retrieving from the database detailed data about the selected locomotive equipment using the respective locomotive identifier for uniquely identifying the selected equipment onboard said locomotive; and

activating at least some of the plurality of graphical hyperlinks embedded on the respective visual representations of the selected locomotive equipment for enabling said service personnel to graphically navigate from the selected assembly to any relevant subassembly and replacement parts, said activating further eliciting troubleshooting instructions for performing a health assessment of a selected assembly of the selected locomotive equipment;

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providing monitored data selected from the group consisting of operational performance of the selected equipment, operational performance of the selected assembly, and fault indications detected in the equipment and assembly; and processing the monitored data to determine the nature and extent of servicing required by the selected locomotive equipment and the selected assembly.

2. (cancelled).
3. (original) The method of claim 1 wherein the input/output device communicates with the database while at a remote service site for the equipment.
4. (original) The method of claim 1 wherein the detailed parts data for the selected equipment is downloaded to the input/output device.
5. (original) The method of claim 1 wherein the input/output device interfaces with the detailed parts data while the detailed parts data is resident in the database.
6. (original) The method of claim 1 wherein the detailed parts data includes graphical reproductions of the selected equipment with each reproduction being arranged into selectable segments and each segment being expandable for identifying replaceable parts therein.
7. (original) The method of claim 1 wherein the detailed parts data includes a searchable parts field.
8. (original) The method of claim 7 wherein the searchable parts field is selected from the group comprising part name, part number and part description.

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9. (original) The method of claim 7 wherein the parts field is searchable based on visual representations of the part.

10. (original) The method of claim 1 wherein the detailed parts data includes a list of substitute parts for each assembly.

11. (original) The method of claim 6 wherein the graphical reproductions are configured to display part names, part numbers, and part descriptions for each selected segment of the reproduction.

12. (original) The method of claim 1 wherein each schematic representation is expandable by selecting any section thereof using a computer-readable pointer.

13. (original) The method of claim 10 wherein the database includes reliability and performance data for parts and substitutes therefor.

14. (original) The method of claim 1 wherein the component identity includes manufacturer and user part numbers.

15. (original) The method of claim 1 wherein said input/output device comprises a Web-enabled input/output device.

16. (original) The method of claim 1 wherein said database is configured to gather ordering information regarding parts needed to service the selected equipment.

17. (original) The method of claim 16 wherein the ordering information includes an on-line shopping basket for accumulating multiple parts to be ordered.

18. (original) The method of claim 17 wherein the database is configured to provide cost data for each part, including shipping costs.

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19. (currently amended). A computerized method for self-directed assistance of equipment service personnel identifying replacement parts for selected locomotive equipment and a selected system thereof while present at an equipment work site to perform a servicing operation for a locomotive, said method comprising:

providing a database comprising detailed parts data about the replacement parts for each assembly of the selected locomotive equipment, with the detailed data identifying each part in a selected assembly, schematic representations of the selected assembly and its subassemblies and respective parts, wherein the detailed parts data includes graphical reproductions of the selected equipment with each reproduction being arranged into selectable segments comprising a plurality of graphical hyperlinks embedded on such graphic representations of the selected locomotive equipment, and each segment being expandable from a top-level representation to a detailed-level representation for any selected assembly for identifying replaceable parts thereof, and further wherein the database comprises detailed data for troubleshooting and determining a servicing required for a selected assembly of the selected locomotive equipment; and

activating at least some of the plurality of graphical hyperlinks embedded on the respective graphical representations of the selected locomotive equipment for remotely retrieving from the database detailed parts data about a selected assembly using a level of representation sufficiently detailed to enable service personnel to perform a desired service of the selected assembly, said activating further eliciting troubleshooting instructions for performing a health assessment of a selected assembly of the selected locomotive equipment;

providing monitored data selected from the group consisting of operational performance of the selected equipment, operational performance of the selected assembly, and fault indications detected in the equipment and assembly; and

processing the monitored data to determine the nature and extent of servicing required by the selected locomotive equipment and the selected assembly.

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20. (currently amended) A computerized system for self-directed assistance of equipment service personnel in graphically identifying replacement parts for selected locomotive equipment and a selected system thereof while present at an equipment work site to perform a servicing operation for a locomotive, said system comprising:

a database comprising detailed parts data about the replacement parts for each assembly of the selected locomotive equipment, with the detailed data identifying each part in a selected assembly by providing a series of linked schematic representations of the selected assembly and any subassemblies thereof and respective parts, said database responsive to a respective locomotive identifier for uniquely identifying the selected equipment onboard said locomotive, wherein said series of linked schematic representations comprises a plurality of graphical hyperlinks embedded on respective visual representations of the selected locomotive equipment, and further wherein the database comprises detailed data for troubleshooting and determining a servicing required for a selected assembly of the selected locomotive equipment;

a hand-held input/output device for wirelessly communicating with the database as said personnel performs the servicing operation for said locomotive; and

a data management module configured to access the database to interface with the detailed parts data, said module further configured to retrieve from the database detailed data about the selected equipment using the respective identifier for the equipment, wherein activation of at least some of said graphical hyperlinks embedded on the respective visual representations of the selected locomotive equipment allows said service personnel to graphically navigate from the selected assembly to any relevant subassembly and replacement parts, wherein the activation of the graphical hyperlinks is further configured to retrieve from the database troubleshooting instructions for performing a health assessment of a selected assembly of the selected locomotive equipment;

a module for providing monitored data selected from the group consisting of operational performance of the selected equipment, operational performance of the selected assembly, and fault indications detected in the equipment and assembly; and

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a module for processing the monitored data to determine the nature and extent of servicing required by the selected locomotive equipment and the selected assembly.